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Substitute for form 1449A/PTO		<i>Complete if Known</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number	10/814,752
		Filing Date	03/31/2004
		First Named Inventor	Paul DeAngelis
		Group Art Unit	1653 <i>1652</i>
		Examiner Name	Not Yet Assigned- <i>Stobodysanshi</i>
Sheet	1	of	7
		Attorney Docket Number	

Examiner Signature		Date Considered	12/20/07
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 7

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Application Number	10/814,752
Filing Date	03/31/2004
First Named Inventor	Paul DeAngelis
Group Art Unit	1653 1652
Examiner Name	Not Yet Assigned
Attorney Docket Number	4599.014

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS		
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
EJ	AA	VANN, W.F., et al.: The Structure of the Capsular Polysaccharide (K5 Antigen) of Urinary-Tract-Infective Escherichia coli 010:K5:H4. Biochem J. 116:359-364 (1981).
	AB	FAREED, J.: Heparin, Its Fractions, Fragments and Derivatives. Some Newer Perspectives. Seminars in Thrombosis and Hemostasis. 11(1):1-9 (1985).
	AC	ROBERTS, I., et al.: Molecular Cloning and Analysis of Genes for Production of K5, K7, K12, and K92 Capsular Polysaccharides in Escherichia coli. J. Bacteriology. 168(3):1228-1233 (1986).
	AD	ROBERTS, I.S., et al.: Common Organization of Gene Clusters for Production of Different Capsular Polysaccharides (K Antigens) in Escherichia coli. J. Bacteriology. 170(3):1305-1310 (1988).
	AE	KRONCKE, K.D., et al.: Expression of the Escherichia coli K5 Capsular Antigen: Immunoelectron Microscopic and Biochemical Studies with Recombinant E. coli. J. Bacteriology. 172(2):1085-1091 (1990).
	AF	SMITH, A.N., et al.: Molecular analysis of the Escherichia coli K5 kps locus: Identification and characterization of an inner-membrane capsular polysaccharide transport system. Molecular Microbiology. 4(11):1863-1869 (1990).
	AG	KUSCHE, M., et al.: Biosynthesis of heparin. Use of Escherichia coli K5 capsular polysaccharide as a model substrate in enzymic polymer-modification reactions. Biochem J. 275(pt 1):151-8 (1991).
	AH	SOLDANI, G., et al.: Experimental and Clinical Pharmacology of Glycosaminoglycans (GAGs). Drugs Exptl. Clin. Res. XVII(1):81-85 (1991).
	AI	LIDHOLT, K., et al.: Biosynthesis of heparin. The D-glucuronosyl- and N-acetyl-D-glucosaminyltransferase reactions and their relation to polymer modification. Biochem J. 287(pt 1):21-9 (1992).
	AJ	BRONNER, D., et al.: Synthesis of the K5 (group II) capsular polysaccharide in transport-deficient recombinant Escherichia coli. FEMS Microbiology Letters 113:279-284 (1993).
EJ	AL	LIND, T., et al.: Biosynthesis of Heparin/Heparan Sulfate. The Journal of Biological Chemistry. 268(28):20705-20708 (1993).

Examiner Signature	<i>E. Shee</i>	Date Considered	12/20/07
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Application Number	10/814,752
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First Named Inventor	Paul DeAngelis
Group Art Unit	1659-1652
Examiner Name	Not Yet Assigned

Attorney Docket Number

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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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EJ	AM	PANDIT, K.K., et al.: Capsular hyaluronic acid in Pasteurella multocida type A and its counterpart in type D. Research in Veterinary Science. 54:20-24 (1993).	
	AN	CASU, B., et al.: Heparin-like compounds prepared by chemical modification of capsular polysaccharide from E. coli. Elsevier Science. 263:271-284 (1994).	
	AO	LIDHOLT, K., et al.: Substrate specificities of glycosyltransferases involved in formation of heparin precursor and E. Coli K5 capsular polysaccharides. Carbohydrate Research. 255:87-101 (1994).	
	AP	RIMLER, R.B.: Presumptive Identification of Pasteurella multocida serogroups A, D and F by capsule depolymerisation with mucopolysaccharidases. Veterinary Record. 134:191-192 (1994).	
	AC	AHN, J., et al.: Cloning of the putative tumor suppressor gene for hereditary multiple exostoses (EXT1). Nat. Genet. 11(2):137-43 (1995).	
	AR	PETIT, C., et al.: Region 2 of the Escherichia coli K5 capsule gene cluster encoding proteins for the biosynthesis of the K5 polysaccharide. Molecular Microbiology. 17(4):611-620 (1995).	
	AS	RAZI, N., et al.: Structural and functional properties of heparin analogues obtained by chemical sulphation of Escherichia coli K5 capsular polysaccharide. Biochem J. 309 (pt2):465-72 (1995).	
	AT	RIMLER, R.B., et al.: Influence of chondroitinase on direct hemagglutination titers and phagocytosis of Pasteurella multocida serogroups A, D and F. Veterinary Microbiology. 47:287-294 (1995).	
	AU	STICKENS, D., et al.: The EXT2 multiple exostoses gene defines a family of putative tumor suppressor genes. Nat. Genet. 14(1):25-32 (1996).	
	AV	CLINES, G.A., et al.: The Structure of the Human Multiple Exostoses 2 Gene and Characterization of Homologs in Mouse and Caenorhabditis elegans. Cold Spring Harbor Laboratory Press. 7:359-367 (1997).	
EJ	AW	WISE, C.A., et al.: Identification and Localization of the Gene for EXTL, a Third Member of the Multiple Exostoses Gene Family. Cold Spring Harbor Laboratory Press. 7:10-16 (1997).	

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Sheet

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First Named Inventor	Paul DeAngelis
Group Art Unit	1653
Examiner Name	Not Yet Assigned
Attorney Docket Number	4599.014

Sheet

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	AX	WYATT TECHNOLOGY CORPORATION: Heparin Characterization. 4/5; www.tigc.org.	
EJ	AY	GRIFFITHS, G., et al.: Characterization of the Glycosyltransferase Enzyme from the Escherichia coli K5 Capsule Gene Cluster and Identification and Charaterization of the Glucuronyl Active Site. The Journal of Biological Chemistry, 273(19):11752-11757 (1998).	
	AZ	LIN, X., et al.: Expression and functional analysis of mouse EXT1, a homolog exostoses type 1 gene. Biochem Biophys Res Commun.; 248(3):738-43 (1998).	
	BA	LIND, T., et al.: The Putative Tumor Suppressors EXT1 and EXT2 Are Glycosyltransferases Required for the Biosynthesis of Heparan Sulfate. The Journal of Biological Chemistry, 273(41):26265-26268 (1998).	
	BB	McCORMICK, C., et al.: The putative tumor suppressor EXT1 alters the expression of cell-surface heparan sulfate. Nat. Genet. 19(2):158-61 (1998).	
	BC	RIGG, G.P., et al.: The localization of KpsC, S and T, and KfA, C and D Proteins Involved in the biosynthesis of the Escherichia coli K5 capsular polysaccharide: evidence for a membrane-bound complex. Microbiology 144, 2905-2914 (1998).	
	BD	VAN HUL, W., et al.: Identification of a Third EXT-like Gene (EXTL3) Belonging to the EXT Gene Family. Genomics. 47(2):230-7 (1998).	
	BE	FINKE, A., et al.: Biosynthesis of the Escherichia coli K5 Polysaccharide, a Representative of Group II Polysaccharides: Polymerization In Vitro and Characterization of the Product. Journal of Bacteriology. 4088-4094 (1999).	
	BF	KITAGAWA, H., et al.: The Tumor Suppressor EXT-like Gene EXTL2 Encodes an 1, 4-N-Acetylhexosaminyltransferase That Transfers N-Acetylgalactosamine and N-Acetylglicosamine to the Common Glycosaminoglycan-Protein Linkage Region. The Journal of Biological Chemistry. 273(20):13933- □	
	BG	LINHARDT, R.J., et al.: Production and Chemical Processing of Low Molecular Weight Heparins. Thieme Medical Publishers, Inc. 25(3):5-16 (1999).	
EJ	BH	NADER, H.B., et al.: New insights on the specificity of heparin and heparan sulfate lyases from Flavobacterium heparinum revealed by the use of synthetic derivatives of K5 polysaccharide from E. coli and 2-O-desulfated heparin. Glycoconj J. 16(6):265-70 (1999).	

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First Named Inventor	Paul DeAngelis
Group Art Unit	1652
Examiner Name	Not Yet Assigned

Attorney Docket Number 4599.014

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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SJ	BI	SIMMONS, A.D., et al.: A director interaction between EXT proteins and glycosyltransferases is defective in hereditary multiple exostoses. Hum. Mol. Genet. ; 8(12):2155-64 (1999).	
	BJ	SONG, G., et al.: Identification of mutations in the human EXT1 and EXT2 genes. Chin J. Med. Genet., 16(4):208-10 (1999).	
	BK	BOYCE, J.D., et al.: Pasteurella multocida capsule: composition, function and genetics. Journal of Biotechnology 83:153-160 (2000).	
	BL	HAGNER-McWHIRTER A., et al.: Biosynthesis of heparin/heparan sulfate: kinetic studies of the glucuronyl C5-epimerase with N-sulfated derivatives of the Escherichia coli K5 capsular polysaccharide as substrates. Glycobiology. 10(2):159-71 (2000).	
	BN	HODSON, N., et al.: Identification That KfiA, a Protein Essential for the Biosynthesis of the Escherichia coli K5 Capsular Polysaccharide, Is a UDP-GlcNAc Glycosyltransferase. The Journal of Biological Chemistry, 275(35):27311-27315 (2000).	
	BN	LEGEAI-MALLET L., et al.: EXT 1 Gene Mutation Induces Chondrocyte Cytoskeletal Abnormalities and Defective Collagen Expression in the Exostoses. J Bone Miner Res. 15(8):1489-500 (2000).	
	BO	LIN, X., et al.: Disruption of gastrulation and heparan sulfate biosynthesis in EXT1-Deficient Mice. Dev. Biol. 224(2):299-311 (2000).	
	BP	MCCORMICK, C., et al.: The putative tumor suppressors EXT1 And EXT2 form a stable complex that accumulates in the Golgi apparatus and catalyzes the synthesis of heparan sulfate. PNAS, 97(2):668-673 (2000).	
	BQ	PEDERSEN, L.C., et al.: Heparan/Chondroitin Sulfate Biosynthesis. The Journal of Biological Chemistry, 275(44):34580-34585 (2000).	
	BR	SASISEKHARAN, R., et al.: Heparin and heparan sulfate: biosynthesis, structure and function. Elsevier Science, Ltd. 1367-5931:626-631 (2000).	
SJ	BS	SENAJ, C., et al.: The EXT1/EXT2 tumor suppressors: catalytic activities and role in heparan sulfate biosynthesis. EMBO Reports 1(3):282-286 (2000).	

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Sheet	6	Filing Date	03/31/2004
		First Named Inventor	Paul DeAngelis
		Group Art Unit	1653-1652
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	4599

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
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SD	BT	TOYODA, H., et al.: Structural Analysis of Glycosaminoglycans in Drosophila and Caenorhabditis elegans and Demonstrations That tout-velu, a Drosophila Gene Related to EXT Tumor Suppressors, Affects Heparan Sulfate in Vivo. The Journal of Biological Chemistry, 275(4):2269-2275 (2000).		
	BU	WEI, G., et al.: Location of the Glucuronosyltransferase Domain in the Heparan Sulfate Copolymerase EXT1 by Analysis of Chinese Hamster Ovary Cell Mutants. The Journal of Biological Chemistry, 275(36):27733-27740 (2000).		
	BV	BIO TIE THERAPIES; BioHeparin - Prospectus; June 2001. (Finland)		
	BW	CHEUNG, P.K., et al.: Etiological Point Mutations in the Hereditary Multiple Exostoses Gene EXT1: A Functional Analysis of Heparan Sulfate Polymerase Activity. Am. J. Hum. Genet. 69:55-66, (2001).		
	BX	DUNCAN, G., et al.: The link between heparan sulfate and hereditary bone disease: finding a function for the EXT family of putative tumor suppressor proteins. The Journal of Clinical Investigation, 108(4):511-516 (2001).		
	BY	KIM, B.T., et al.: Human tumor suppressor EXT gene family members EXTL1 and EXTL3 encode alpha 1,4-N-acetylglucosaminyltransferases that likely are involved in heparan sulfate/heparin biosynthesis. Proc. Natl. Acad. Sci. U.S.A. 1998(13):7176-81 (2001).		
	BZ	KITAGAWA, H., et al.: rib-2, a Caenorhabditis elegans Homolog of the Human Tumor Suppressor EXT Genes Encodes a Novel 1,4-N-Acetylglucosaminyltransferase Involved in the Biosynthetic Initiation and Elongation of Heparan Sulfate. The Journal of Biological Chemistry, 276(7):4834-4838 (2001).		
	CA	LEALI, D., et al.: Fibroblast Growth Factor-2 Antagonist Activity and Angiostatic Capacity of Sulfated Escherichia coli K5 Polysaccharide Derivatives. The Journal of Biological Chemistry, 276(41):37900-37908 (2001).		
	CB	MAY, B.J. et al. Complete genomic sequence of Pasteurella multocida, Pm70. Proc. Natl. Acad. Sci. 98(6):3460-3465 (2001).		
	CC	NAGGI, A., et al.: Toward a Biotechnological Heparin through Combined Chemical and Enzymatic Modification of the Escherichia coli K5 Polysaccharide. Seminars in Thrombosis and Hemostasis, 27(5):437-443 (2001).		
SD	CD	TOWNSEND, K.M. et al. Genetic organization of Pasteurella multocida cap loci and development of a multiplex capsular typing system. J. Clin. Microbiol. 39(3):924-929 (2001).		

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<i>EL</i>	CE	VAN AKEN, H., et al.: Anticoagulation: The Present and Future. Clin. Appl. Thrombosis/Hemostasis, 7(3):195-204, (2001).	
	CF	DeANGELIS, P.L., et al.: Identification of the capsular polysaccharides of Type D and F Pasteurella multocida as unmodified heparin and chondroitin, respectively. Carbohydrate Research 337:1547-1552 (2002).	
	CG	DeANGELIS, P.L., et al.: Identification and Molecular Cloning of a Heparosan Synthase from Pasteurella multocida Type D. The Journal of Biological Chemistry. 277(9):7209-7213 (2002).	
<i>ES</i>	CH	HILL, A.L., et al.: Identification of the Xenopus laevis cDNA for EXT1: A Phylogenetic Perspective. DNA Sequence, 13 (2):85-92 (2002).	
	CI	JING, W., et al.: Structure function analysis of Pasteurella glycosaminoglycan synthesis. Glycobiology 12: abstract 188 <i>(2002)</i> .	
	CJ	KATADA, T., et al.: cDNA cloning and distribution of XEXT1, the Xenopus homologue of EXT1. Dev Genes Evol. 212:248-250 (2002).	
	CK	KIM, B-T, et al.: Demonstration of a Novel Gene DEXT3 of Drosophila melanogaster as the Essential N-Acetylglucosamine Transferase in the Heparan Sulfate Biosynthesis. The Journal of Biological Chemistry, 277(16):13659-13665 (2002).	
	CL	POGGI A., et al.: Inhibition of B16-BL6 melanoma lung colonies by semisynthetic sulfaminoheparosan sulfates from E. Coli K5 polysaccharide. Semin Thromb Hemost. 28(4):383-92 (2002).	
	CM	SUGAHARA, K., et al.: Heparin and Heparan Sulfate Biosynthesis. Life, 54:163-175 (2002).	
	CN	ZAK, B.M., et al.: Hereditary multiple exostoses and heparan sulfate polymerization. Biochimica et Biophysica Acta 1573:346-355 (2002).	
<i>ED</i>	CO	VICENZI, E., et al.: Broad spectrum inhibition of HIV-1 infection by sulfated K5 Escherichia coli polysaccharide derivatives. AIDS. 17(2):177-81 (2003).	

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